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An Investigation of a Comparative Study Among Different Age Groups About the Acceptance and Concern of Covid-19 Vaccine in Bangladesh

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Abstract

Covid-19 was one of the major causes of death worldwide as well as in Bangladesh. In this project, study carried out about covid-19 vaccine and the concern about vaccines among different age groups in Bangladesh. Full dataset was collected from 151 respondents who agree to participate in online survey. This study was directed among all districts in Bangladesh. These survey area among different age groups of respondents. The attitude of Bangladeshi people to take vaccine of covid-19 is the major concern. The instrument for data collection was google sheet questionnaire about covid-19 Vaccine. The results were described in result and discussion section. To alleviate the outcome of Covid-19 by preventing the transmission, scientific communities around the world had put their best endeavors to develop the latest variant vaccines against the virus. Bangladesh is also moving forward with its vaccination strategy and inoculation program. So, it is very clear to us that dissemination of information on health education about covid-19 and proper guidelines about low-cost and quality healthcare services among the population of Bangladesh may help in reducing the death rate of this pandemic from the country.

Keywords: Investigation, Vaccine Campaign, Age, Health Education, Bangladesh

INTRODUCTION

Impartial access to effective vaccines is critical to terminating the COVID-19 pandemic, so it is extremely encouraging to see so many vaccines manifesting and moving into establishment. WHO worked energetic with partners to advance, construct and distribute

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effective and safe vaccines. Shielded and effectual vaccines are a game-changing implement: but for the foreseeable future we ought to carry on with wearing masks, cleaning our hands, securing good ventilation indoors, physically distancing and keeping away from crowds. Being vaccinated does not signify that we can hurl caution to the wind and put ourselves and others at threat, especially because the research is still ongoing into how much vaccines keep safe not only opposed to disease but also opposed to infection and transference.

In a few of months, it spread rapidly over the world, severely taxing the humanitarian and financial resources as well as overwhelming health systems everywhere. The World Health Organization (WHO) reported around 230.42 million confirmed cases of COVID-19, including over 4.7 million deaths, worldwide as of September 24, 2021 (WHO Coronavirus, 2021). On March 8, 2020, the first COVID-19 case in Bangladesh was discovered. Bangladesh responded to the epidemic with early preventative measures. Lockdown was one of the prompt and wise preventive measures that the government implemented to stop the virus from spreading (Mahmud and Al-Mohaimeed 2020). The vaccination program was started in Bangladesh by the government. The government of Bangladesh has made significant financial investments to fund public vaccination programs. The COVID-19 vaccination program is not without its issues.

On the other hand, a lot of people assist those who are unsure about how to administer vaccines. The government released the "SUROKKH" app, and in order to receive a vaccination, we must first register. Many people lack the knowledge necessary to register. Nonetheless, a lot of individuals are aware of the internet these days and are using it to benefit society as a whole. In addition, a large number of Bangladeshis are aware of the COVID-19 vaccine registration process and have taken it themselves. Under a tripartite partnership, Bangladesh has so far bought 30 million doses from the Serum Institute of India through private Beximco Pharmaceuticals. The vaccination campaign was launched on January 27, 2021, with the goal of immunizing 80% of the adult population. On February 7, 2021, inoculation efforts nationwide were launched.

On February 7th, Bangladesh launched a widespread vaccination scheme against COVID-19. As of September 28th, 2021, approximately 12,790,948 individuals had gotten their first dose of the vaccine (Covid-19 Vaccination Dashboard, 2021). Nonetheless, significant differences in vaccination enthusiasm have been observed across individuals from various sociodemographic backgrounds. Compared to the number of males receiving

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the first dose of the vaccination, the proportion of female recipients is nearly half (Covid-19 Vaccination Dashboard, 2021). When compared to the number of registrations from urban regions, the number of registrations from rural settlements is noticeably lower (Covid-19 Vaccination Dashboard, 2021), (Dhakatribune 2021).

In certain regions, the number of registrants from villages is less than half that of those from municipal corporations (Dhakatribune 2021). The absence of vaccine registration also affects urban poor people, who have historically had limited knowledge about COVID-19 risk assessment and preventative measures (Dhakatribune 2022). These poor individuals are generally not interested in acquiring the vaccine; this could be because they don't have smartphones with internet access or know how to register on the website. Given that a significant portion of the population living in rural areas and in slums comes from low socioeconomic and educational backgrounds, current policies need to be revised to incorporate a comprehensive awareness campaign in these areas and an on-site registration system as a substitute for the app-based registration system (Dhakatribune 2022). Also, the world is going forward to develop medicine for new emerging diseases better than past era (Hoque et al.,2023). The purpose of this study was to raise awareness within the community, support medical facilities, and safeguard the ongoing operation of vital services, such as healthcare. Make sure that vaccination prioritizing within nations considers the needs, vulnerabilities, and risks of those groups that are more likely to be affected by the COVID-19 pandemic due to underlying socioeconomic, geographic, or biological variables.

METHODOLOGY

Area of the study: The study of this project is the online survey for the acceptance and concern of covid-19 vaccine in Bangladesh. It is directed among all districts in Bangladesh. These survey area among different age groups. The attitude of Bangladeshi people to take vaccine of covid-19 is the major concern.

Study population: The population for the survey study comprised about 500 people in Bangladesh through online in google sheet. At the end of the survey only 151 people responded and answered all the questions.

Study duration: This study was carried out from July 2021 to August 2021.

Data collection: The instrument for data collection was google sheet questionnaire about covid-19 Vaccine.

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Study design: The questionnaire was developed via expert group discussion and literature reviews (Harapan et al.,2020), (Al-Mohaither and M, Padhi, 2023). Numerous questions on demographic characteristics, medical conditions, sources of knowledge on COVID-19, acceptance of the COVID-19 vaccine, and worries about the COVID-19 vaccine were included in the survey form. The sociodemographic information included the following: place of birth, age in years, gender, race, religion, marital status, level of education, employment, and monthly income. Along with social media and traditional media, HCWs, friends, family, and neighbors were some of the sources of knowledge regarding COVID-19. Another question addressed concerns about the COVID-19 vaccine, including ignorance of the vaccine, adverse effects, safety, effectiveness, and the notion that the virus is not dangerous. It also addressed fears of injections, opposition to vaccinations generally, and beliefs in traditional remedies and religious and cultural justifications. The answer responses for questions were in dichotomous 'yes' or 'no' or "maybe" format.

Data analysis: The completed questionnaires from our respondents were carefully cross-checked to ensure the accuracy of the data. Copies without sufficient answers were returned. After the replies were coded on computer coding sheets, data analysis was done using the Statistical Package for the Social Sciences (SPSS) Batch System and Microsoft excel software. When examining their answers about their understanding of the COVID-19 vaccine, percentages and the mean were utilized. To determine the answer frequencies and percentages of respondents based on age and sex, the data were examined item by item. Statistical significance was defined at $p < 0.05$.

RESULTS

Here data were collected from different ages including both male female and other respondents. Only 151 respondents from 500 people were included in this study.

Table 1: Gender of the participants

Gender	Frequency	Percent
Male	89	58.9%
Female	62	41.1%
Others	0	0%
Total	151	100%

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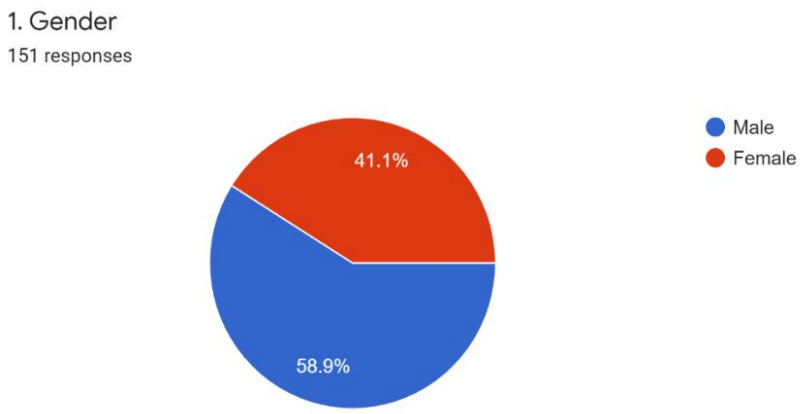

Figure 1: Gender percentage

Table 2: Age of the respondents

Age	Frequency	Percent (%)
20-25	48	31.8
25-30	66	43.7
31-40	21	13.9
41-50	12	7.9
51-60	3	2
61-70	0	0
71 and above	1	0.7

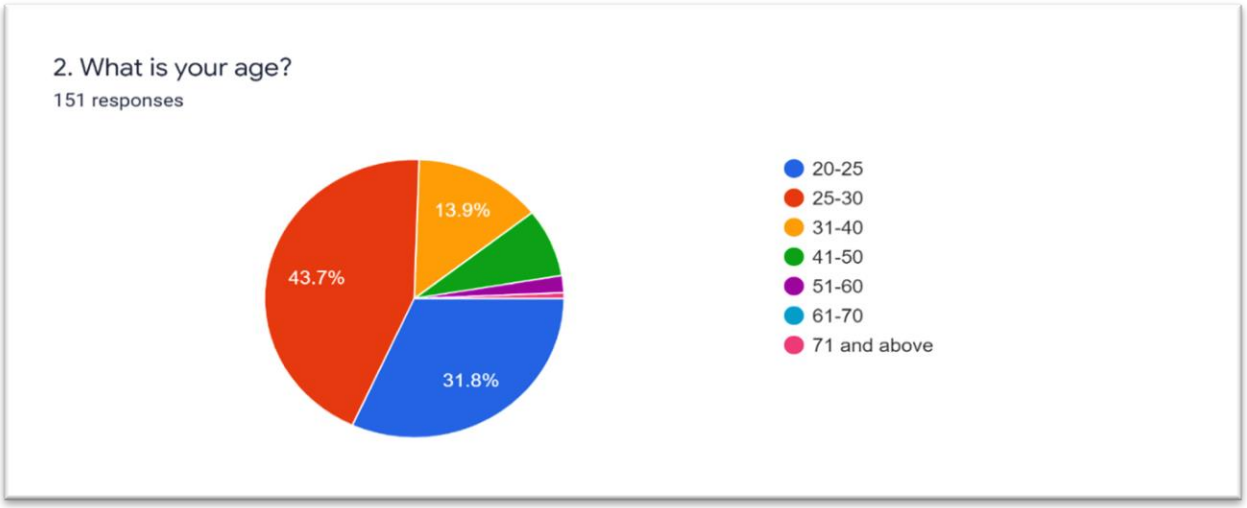

Figure 2: Age of the respondents

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Table 3: Religion of the respondents

Religion	Frequency	Percent(%)
Muslim	134	88.7
Hindu	13	8.6
Christian	2	1.3
Buddhism	2	1.3
Other	0	0

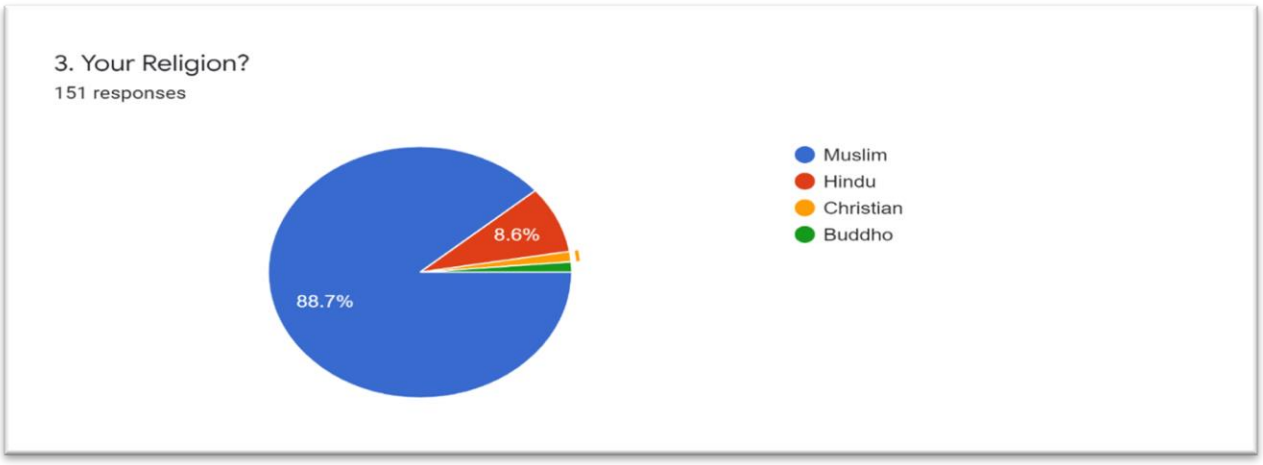

Figure 3: Religion of the respondents

Table 4: Marital status of respondents

Marital status	Frequency	Percent%
Married	47	41.2
Unmarried	103	68.2
Separate	1	0.7
Others	0	0
Total	151	100

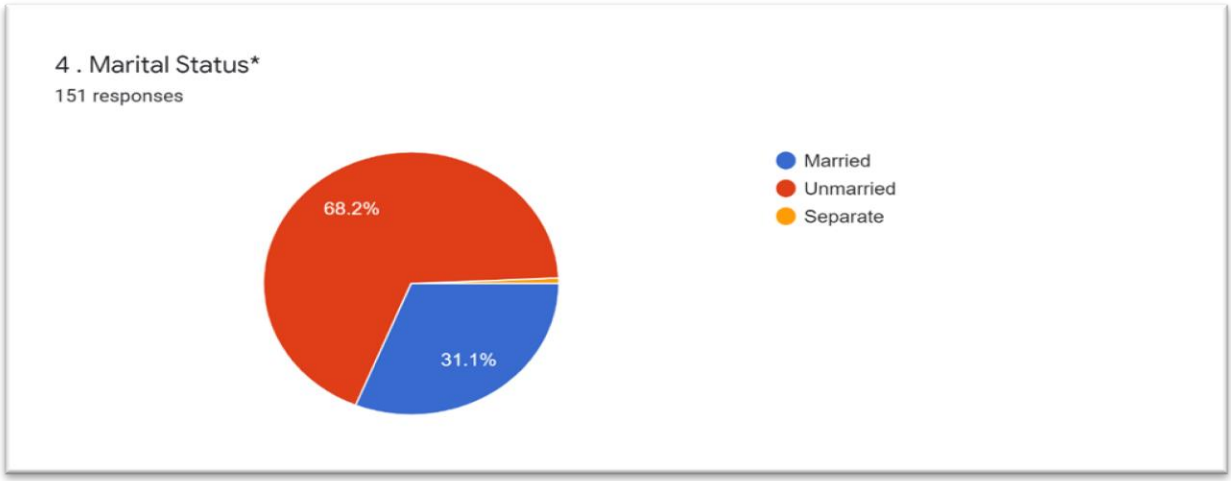

Figure 4: Marital status of respondents

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Table 5: Individuals from district include in Division

Division	Frequency	Percent%
Dhaka	24	13
Rajshahi	16	9
Chittagong	34	18
Khulna	40	22
Rangpur	27	14
Mymensingh	18	10
Barisal	26	14
Total	145	100

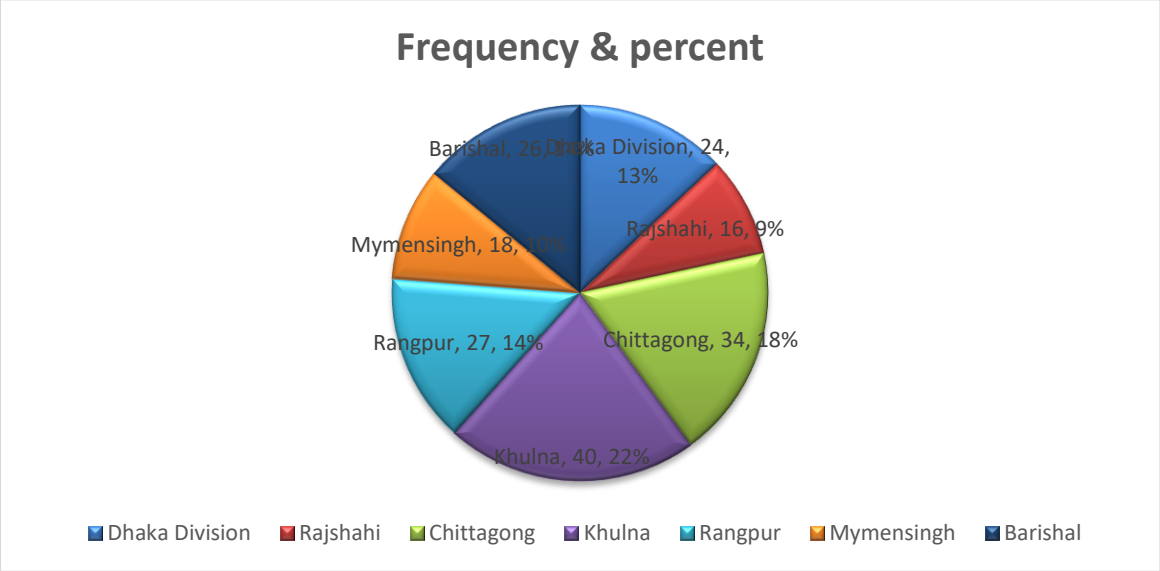

Figure 5: Individuals from district include in Division

Table 6: Education of respondents

Status	Frequency	Percent (%)
Illiterate	2	1.3
Primary	0	0
Secondary	2	1.3
Higher secondary	13	8.6
Graduate	93	61.6
Post graduate	37	24.5
Others	3	2
Total	151	100

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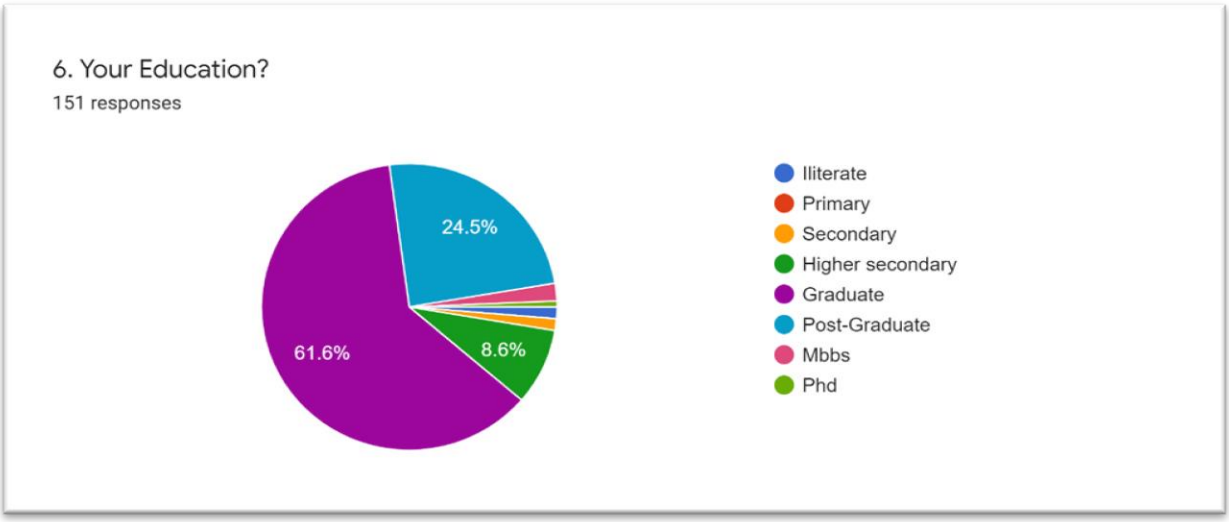

Figure 6: Education of respondents

Table 7: Occupation of the respondents

Occupation	Frequency	Percent(%)
Student	84	55.6
Housewife	11	7.3
Business	6	4
Farmer	1	0.7
Unemployed	11	7.3
Govt.-employee	14	9.3
Private Employee	18	11.9
Health professional	6	4
Others	0	0
Total	151	100

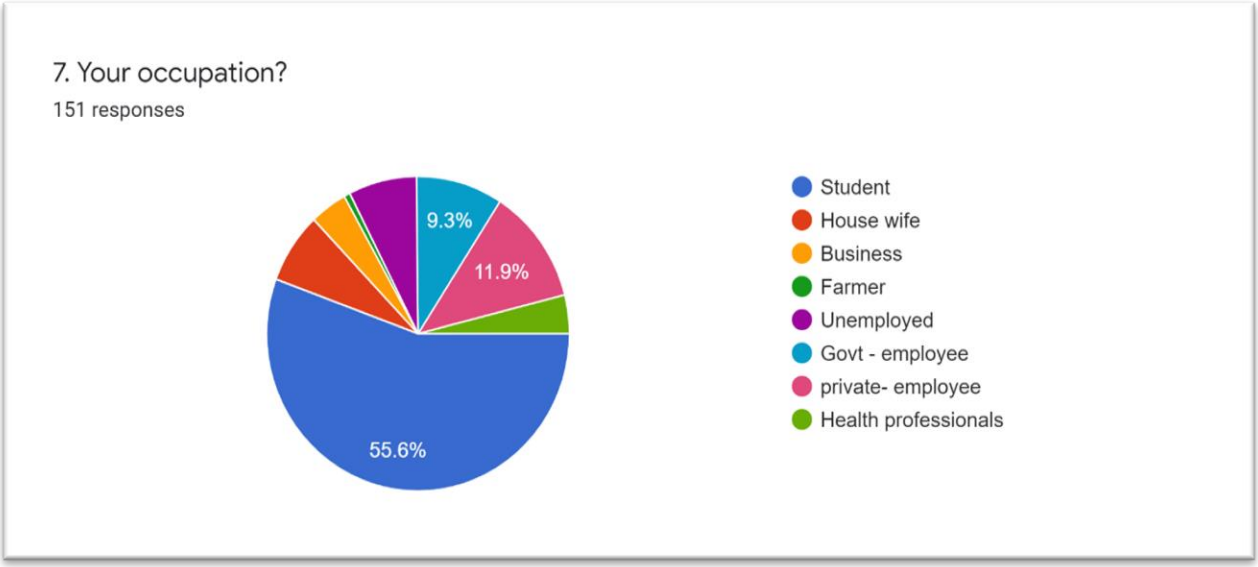

Figure 7: Occupation of the respondents

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Table 8: Habitat of the respondents

Place	Frequency	Percent(%)
City	109	72.2
Rural	42	27.8

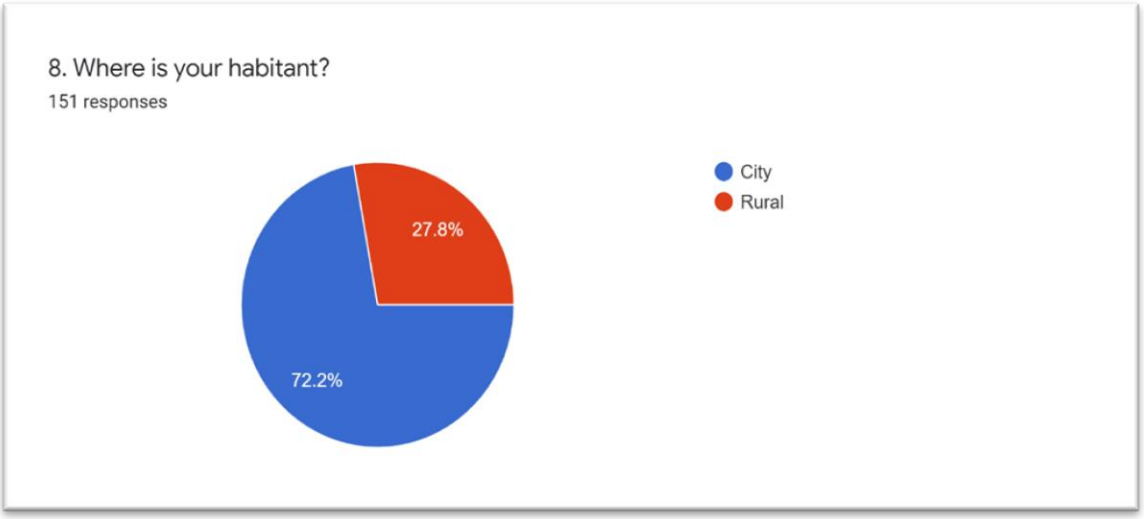

Figure 8: Habitat of the respondents

Table 9: Family type of the respondents

Type	Frequency	Percent(%)
Single	115	76.2
Joint	36	23.8

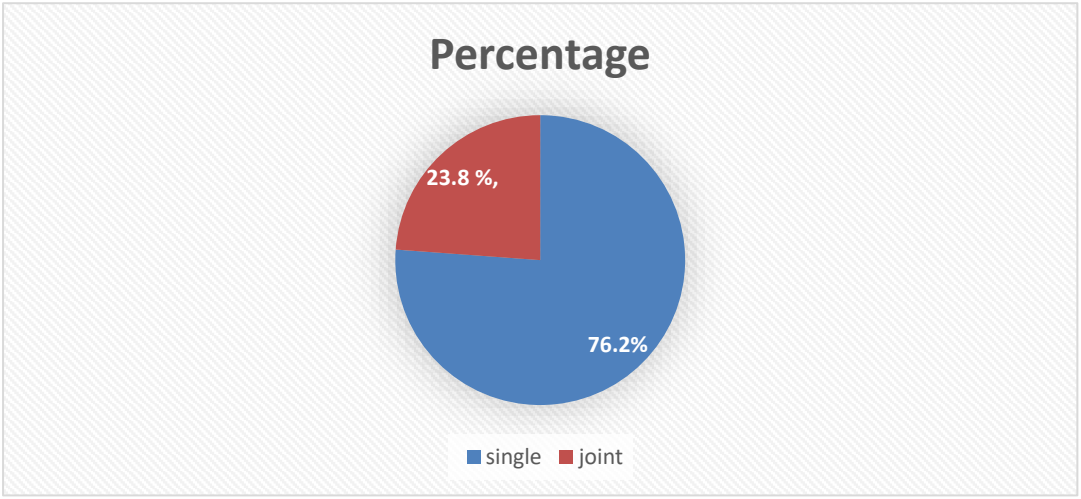

Figure 9: Family type of the respondents

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Table 10: Family income of the respondents

Income	Frequency	Percent(%)
Less than 20,000	21	13.9
20,000-30,000	49	32.5
30,000 & above	81	53.6

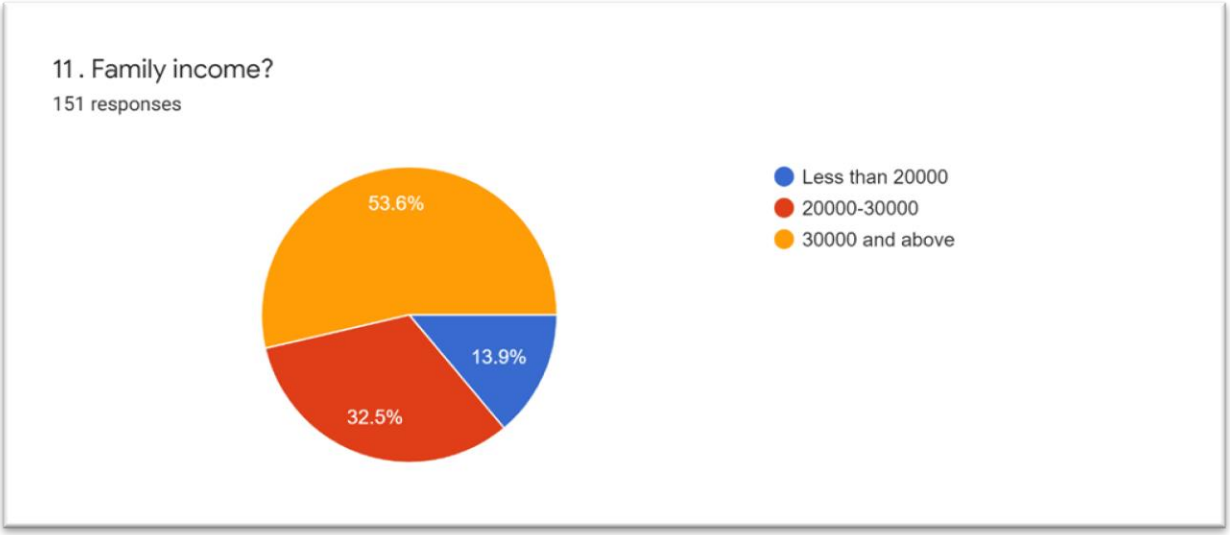

Figure 10: Family income of the respondents

Table 11: Nicotine product habit of the respondents

Status	Frequency	Percent(%)
Yes	28	18.5
No	123	81.5
Total	151	100

Table 12: Medical illness of the respondents

Illness	Frequency	Percent(%)
Asthma	20	13.2
Diabetes Mellitus	2	1.3
Hypertension	6	4
Renal Disorder	2	1.3
Heart Disease	2	1.3
Respiratory Disorder	18	11.3
Cancer	0	0
Nothing	94	62.3
Others	6	3.9
Total	151	100

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Table 13: Respondent's current health condition

Condition	Frequency	Percent(%)
Good	114	75.5
Bad	4	2.6
Moderate	32	21.2
Other	1	0.7

Table 14: Cognizant source of the respondent about covid-19 and its vaccine

Source	Frequency	Percent(%)
Social media like Facebook, instagram, twitter , linked in, tiktok, imo, whatsapp	110	72.2
Internet searching own-self	94	62.3
Mass -communication(tv. , radio)	77	51
Newspapers /magazine	72	47.7
Friends and family/relatives/others	71	47
website like WHO/DGHS/IEDCR	37	24.5
Wikipedia	22	14.6
Other (The New York times journal, the economist, the guardian	4	2.6
Total respondents	151	100

Table 15: Cognizant about covid-19 of the respondents

Types	Frequency	Percent(%)
Good	88	58.3
Very good	28	18.5
Bad	2	1.3
Very bad	1	.7
Average	32	21.2

Table 16: Respondent's COVID-19 affected rate

Response	Frequency	Percent
Yes	27	17.9
No	96	63.6

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Maybe	28	18.5
Total	151	100

Table 17: Respondent's desire to take COVID-19 vaccine

Desire type	Frequency	Percent (%)
Yes	146	96.9
No	5	3.1
Total	151	100

Table 18: Respondent's knowledge about COVID-19

Side of knowledge of covid-19	Frequency	Frequency
	YES	No
Covid-19 origin	51	100
Where Covid-19 is first identified?	30	121
Covid-19 causes	44	109
Which organs are most affected by Covid-19 ?	44	110
Covid-19 symptoms	39	117
How does Covid-19 spread ?	48	106
Covid-19 vaccine	42	111
Covid-19 management	58	97

Table 19: Respondent's attitude to take vaccine

Response Type	Frequency	Percent (%)
Very interested	49	32.5
Positive	79	52.3
Negative	2	1.3
Neutral	18	11.9
Against Vaccine	3	2

Table 20: Respondent's vaccine taken already

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Response Type	Frequency	Percent (%)
Yes	92	60.9
No	59	39.1
Total	151	100

Table 21: Respondent's social concern to inspire people to take vaccine

Response Type	Frequency	Percent (%)
Yes	92	85.4
No	3	2
Maybe	151	12.6

DISCUSSION

This study describes about the sex of the observed people during survey and most of the respondents of this study were male. 89 out of 151 sample respondents were in this category of sex. On the other hand, 62 out of 150 respondents were female observed as sample of this study during data collection from the online google sheet. Most of the observed people were male in this study (Table – 1).

The figure 2 and table 2 show that most of the patients whose were observed by the survey were in the age between 25-30. Basically, they were 43.7 % from the total sample were in this category. On the contrary, 31.8%, 13.9%, 7.9%, 2%, 0% and .7%of the total sample were in the category of age respectively between 20-25, 31-40, 41-50, 51-60, 61-70, 71& above age group. The figure number 3 and table 3 examine the respondent's feedback about their religion and most of Bangladeshi are Muslim about 88.7 % and 8.6 ,1.3, 1.3 % are respectively Hindu, Christian, Buddhism. The religion has an effect about the acceptance of covid-19 vaccine. The figure no. 4 and table 4 examine the respondent's feedback about their marital status and most of respondents are unmarried. It is about 68.2 % and 41.2%, 0.7 % are respectively married & separate. The married people would be more concern to take a vaccine due to their social and family responsibilities.

The figure number 5 and table 5 represent the respondent's feedback about their District status and most of respondent are in Khulna division. It is about 22 % and 13, 9, 18, 14, 10, 14 are respectively Dhaka, Rajshahi, Chittagong, Rangpur, Mymensingh, Barisal. Demographic character has an Impact to concern about vaccine. The figure number 6 and table 6 represent the respondent's feedback about their educational status and most of

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respondent are graduate. It is about 61.1 % and 24.5 % are post graduate, 8.6 % are higher secondary, 1.3 % secondary, 1 % Phd student, 1% illiterate, 2% health professional. Education is the main factor to encourage people to stay safe and they are more concern about their health. (Table - 7) shows that about 55.6 % and 7.3, 4, 0.7, 7.3, 9.3, 11.9, are respectively housewife, businessmen, farmer, unemployed, Govt. employee, private employee and health professional. The student and others educated employee would be more concern about their health and would desire to accept vaccine. From research the respondent's feedback about their family type status. The data table revealed that most of respondents are belongs to single family. It is about 76 % and 24% are belong to joint family. These family types may have an impact about to take vaccine against covid-19. The data set table reveals that most of family income approximate 30,000 and above. It was about 53.6 % and 32.13.9, are respectively 20,000- 30,000 and below 20,000. The family income may have an impact to take vaccine due to continue retain their income and social status.

The Table no 11 examine the respondent's feedback about their nicotine like habit. The above table reveals that most of respondents do not take nicotine products and it was about 81.5 % and 18.5 % take nicotine product. It was known that, nicotine like product may hamper out lungs. That the main reasons of acceptance of vaccine for nicotine addict people the most. The table 12 examine the respondent's feedback about their medical illness. The data table reveals that most of respondent are suffered by asthma, hypertension and respiratory disorder.

(Table – 14) examine the respondent's feedback about their learning source of covid-19 and its vaccine and most of respondents have learnt from social media like Facebook, Tiktok, imo WhatsApp, linked in, Instagram and twitter. It is about 72.8 percent and 62.3, 51, 47.7, 47, 24.5, 14.5, 0.7 % are respectively from searching internet, mass communication, newspaper/magazine, friends and family family/relatives/others member, website like (WHO/DGDA/IEDCR), Wikipedia, and (New York times, the economist, the guardian) source knowledge of the respondent about covid-19 and its vaccine.

The table 15 shows that the respondent's feedback about covid-19 cognizance types and most of respondent's cognizant condition is good. It is about 58.3 and 18.5, 1.3, 0.7, 21.2 % are respectively very good, bad, very bad, and average condition. The table 16 examine the respondent's feedback about affected rate and most of respondent's affected rate is about 17.9% and 63.6 and 18.5 % are respectively not affected and did not know they are affected or not. The affected people would be positive to take vaccine. About 96.9%

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people feel to take vaccine and 3.1% discouraged to take vaccine. The table no 20 examine the respondent's feedback about their vaccine acceptance. The above data shows that most of the respondents are taken vaccine and it was about 60.9 % and 39.1 % have not yet taken vaccine against covid-19.

Table 21 looks at respondents' opinions regarding whether or not it is a social responsibility to encourage individuals to get vaccines, of those surveyed, 85.4% agreed that this was a social responsibility. In addition, 12.6% of respondents might believe such. According to 2% of respondents, encouraging individuals to get vaccinated is not a social duty because of personal reasons.

CONCLUSION

Fast-acting myths about the COVID-19 vaccine have the potential to influence vaccination decisions, despite the fact that this is an indigenous, methodically thorough study that examines belief, attitude, and intention toward the vaccine in a large sample of Bangladeshi people. That's why energetic strategy spotlighting the neatness of herd immunity should be taken from the blueprint level. Besides, our proposal is to use the mass media to keep-down the hesitancy by addressing the vaccine's effectiveness and rightful public health information. To motivate people and show them that we care about our health, all people should join together to combat COVID-19.

Disclosure of conflict of interest
None declared.

Author contribution
All author contributed significantly to design and development of this work.

Ethical consideration
Participants actively participated, knowing that any personal information they contributed would be kept private and that the data they provided would be utilized responsibly.

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